

Figure 2. Coronary angiography view of a TIMI III flow after aspiration with Export device and bare metal implantation

reported an inhibiting effect of large concentrations of THC on agonist induced platelet aggregation (8), others documented increased aggregation of platelets in the presence of THC (9).

Increased myocardial oxygen demand, decreased blood supply, marked vasoconstriction of the coronary arteries and platelet activation all contribute to the development of acute event. In our case, probably, he has had early onset coronary heart disease in whom the cigarette smoking was the single risk factor and cannabis smoking triggered the plaque rupture and induced thrombosis.

Conclusion

We reported this case to attract attention that cannabis may be a much more common cause of myocardial infarction than is generally recognized. Clinicians should be more cautious when taking medical history about use of cannabis and similar illicit substances. Also like our patient's presentation, irreversible damage to the myocardium may be unavoidable when they admit to the hospital at late hours of myocardial infarction perhaps because of the deterioration of perception related to marijuana use.

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Transcatheter closure of coronary artery fistula with an Amplatzer Duct Occluder II in a symptomatic infant

Semptomatik bir infantta koroner arter fistülünün Amplatzer Duct Occluder II transkateter kapatılması

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Introduction

Coronary artery fistulas (CAF) are rare congenital or acquired malformations in which a direct vascular connection from a coronary artery to a cardiac chamber or a great vessel exists. Although rare, they are the most frequent hemodynamically significant coronary anomaly (1-3). Transcatheter closure (TCC) of CAF was first introduced 1983 and has become the treatment of choice (2, 4).

We report a case of 2.5 months old symptomatic girl whose large CAF was successfully closed with Amplatzer Duct Occluder-II ((ADOII,AGA Medical Corporation, Golden Valley, MN,U.S.A).

Case Report

A 2.5-month old girl was referred to our center with the diagnosis of coronary artery fistula. She presented with symptoms of heart failure when she was 17 days old and diagnosis of CAF was established. Diagnostic catheterization revealed a significant left-to-right shunt with a Qp/Qs ratio of 3.43. Anti-congestive treatment was started and she was referred to our center. Echocardiographic examination performed at our center revealed a large CAF originating from the right coronary cusp, draining into the right ventricular outflow tract (RVOT) and she was admitted for cardiac catheterization.

Femoral venous and arterial 5Fr sheaths were placed and selective coronary angiography showed a large tortuous CAF, with right coronary artery leaving the fistula in the proximal segment before an aneurismal dilatation, without additional coronary abnormalities. Proximal segment diameter of CAF was about 4-5 mm, distal segment draining into RVOT was about 4 mm. A 5Fr soft-tip guiding catheter with 0.056" inner diam-

eter was advanced to the proximal part in a retrograde manner and a 0.014", 300 cm coronary guide wire was passed through this catheter and snared in pulmonary artery. Coronary wire was exteriorized out the femoral vein forming an arteriovenous wire loop. A 4F ADO II delivery catheter was advanced over coronary wire and a 04-04 mm ADO II device was advanced through the delivery catheter in an antegrade manner. As the ADO II device was advanced, coronary guide wire was pulled back simultaneously, keeping the proximal parts of the catheters in contact at all times and stabilizing the tortuosity of the fistula. Distal disc of the device was deployed in the aneurismal portion of the fistula and the proximal disc was deployed in the RVOT. After deployment, selective right coronary artery angiography showed complete closure of a fistula (Fig. 1). Echocardiography performed during catheterization before deployment of the device showed no significant RVOT obstruction. Patient was observed overnight, having no arrhythmias and was discharged home the following day. Echocardiography performed the following day and two weeks later showed no significant leak and confirmed ADO II device was in a stable position.

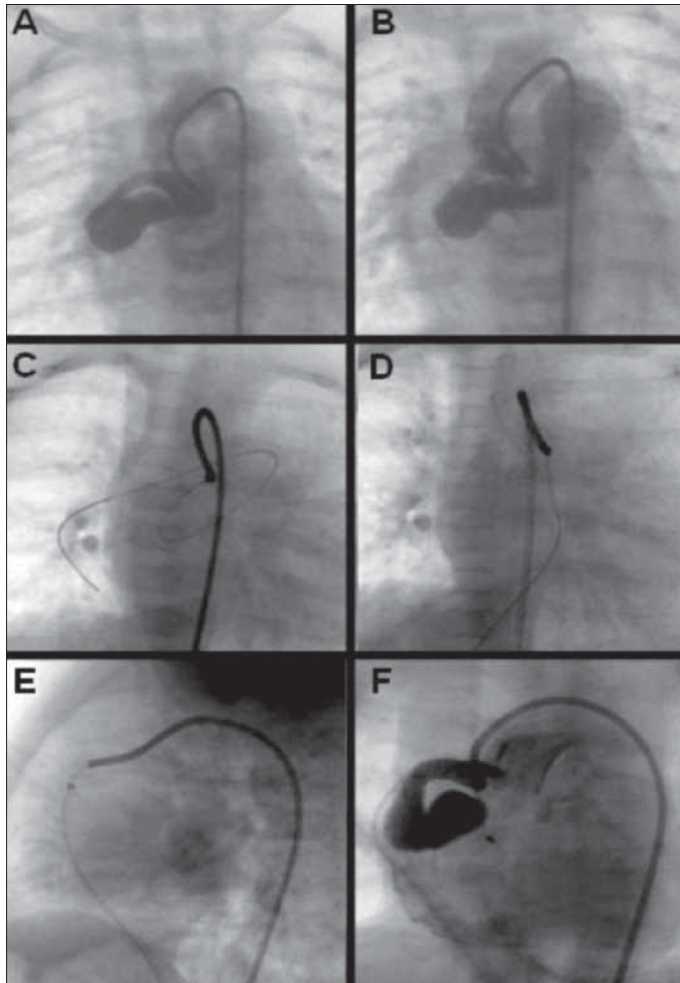


Figure 1. A-B - Aortic root angiogram in antero-posterior position showing the proximal (A) and distal (B) part of a large tortuous coronary fistula originating from the right coronary cusp and draining into the right ventricle outflow tract C- Advancement of the exchange wire in a retrograde manner to the pulmonary artery D-Snaring the exchange wire in the pulmonary artery and forming an arteriovenous loop E- Advancement of ADO II delivery catheter over the exchange wire in a retrograde manner F- Repeat aortic root angiogram showing complete occlusion of the fistula and improved visualization of the right coronary artery

Discussion

Preferred method of approach to patients with fistula must be individualized for each patient (5). Fistulas, especially the ones arising from the proximal part of the coronary artery, have the risk of late giant aneurysm, dilation of the proximal coronary artery and rupture; therefore, they are recommended to be closed at any age (2). Transcatheter closure has the advantages of less morbidity, lower cost, shorter recovery time and avoidance of thoracotomy and cardiopulmonary bypass over the surgical approach (6).

The ADO-II is a self-expanding, multi-layer fabric free, nitinol wire mesh with two symmetric retention disks and a cylindrical waist. This allows for a lower profile so that it can be delivered through a 4F catheter, making it possible to intervene in infants. There are many reports in literature regarding use of earlier versions of Amplatzer devices such as duct occluder, atrial septal defect occluder, ventricular septal defect occluder and vascular plug. Earlier version of ADO is suggested to be particularly useful in closing large, high flow fistula that drain into the right chambers of the heart (3, 4, 7). Small introducer sheaths, improved control over placement and release of the device and a high rate of occlusion are reported as advantages of the earlier version of ADO (2-4), however ADO-II and its ability to be delivered through a 4F sheath make it an even more advantageous device.

Conclusion

There are no reports in literature regarding use of ADO-II in CAF, and we feel, given the successful result in our case, ADO-II is a feasible and safe device to be used in TCC of CAF, especially in small infants who are at the greatest risk of developing congestive heart failure.

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